

GATGGGAACACGACAACGATCATTTGTCCACTATTTTIGCCCTGCTGGTGATTATCAACCTTGGAGTCTAT 70

Asp Gly Asn Thr Thr Thr Ile Ile Val His Tyr Phe Cys Pro Ala Gly Asp Tyr Gln Pro Trp Ser Leu

GGATGTGGCCAAAAGACGGAGGTGGGGCTGAATACGATTTCATCAACCGGCTGACTCTTTTIGGAGCTGT 140

Trp Met Trp Pro Lys Asp Gly Gly Ala Glu Tyr Asp Phe Asn Gln Pro Ala Asp Ser Phe Gly Ala Val

TGCAAGTGTGATATTCAGGAAACCCCAAGTCAGGTAGGAATTATCGTTGCACTCAAGATTGGACCCAAA 210

Ala Ser Ala Asp Ile Pro Gly Asn Pro Ser Gln Val Gly Ile Ile Val Arg Thr Gln Asp Trp Thr Lys

GATGTGAGCGCTGACCGCTACATAGATTTAAGCAAAGGAAATGAGGTGTGGCTTGTAGAAGGAAACAGCC 280

Asp Val Ser Ala Asp Arg Tyr Ile Asp Leu Ser Lys Gly Asn Glu Val Trp Leu Val Glu Gly Asn Ser

AAATTTTATAATGAAAAAGATGCTGAGGATGCAGCTAAACCCGCTGTAAGCAACGCTTATTAGATGC 350

98 102

Gln Ile Phe Tyr Asn Glu Lys Asp Ala Glu Asp Ala Ala Lys Pro Ala Val Ser Asn Ala Tyr Leu Asp Ala

TTCAAACCGGTGCTGGTTAAACTTAGCCAGCCGTTAACTCTTGGGGAAGNNNAAGCGGCTTACGGTT 420

Ser Asn Gln Val Leu Val Lys Leu Ser Gln Pro Leu Thr Leu Gly Glu Gly ?? Ser Gly Phe Thr Val

FIG. 1A

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CATGACGACACAGCAATAAGGATATTCAGTGACATCTGTGAAGGATGCAAGTCTTGGTCAAGATGTAA 490
His Asp Asp Thr Ala Asn Lys Asp Ile Pro Val Thr Ser Val Lys Asp Ala Ser Leu Gly Gln Asp Val

CCGCTGTTTIGGCAGGTACCTTCCAACAATATTTTIGGAGGTCCGATTGGGCACCTGATAAATCACAGTAC 560
Thr Ala Val Leu Ala Gly Thr Phe Gln His Ile Phe Gly Gly Ser Asp Trp Ala Pro Asp Asn His Ser Thr

TTTATTAAAAAGGTGACTAACAATCTCTATCAATTCATCAGGAGATCTTCTGTAAGGAAACTACCAATAT 630
Leu Leu Lys Lys Val Thr Asn Asn Leu Tyr Gln Phe Ser Gly Asp Leu Pro Glu Gly Asn Tyr Gln Tyr

AAAGTGGCTTTAAATGATAGCTGGAATAATCCGAGTTACCCAICTGACAACATTAAATTTAACAGTCCCTIG 700
Lys Val Ala Leu Asn Asp Ser Trp Asn Asn Pro Ser Tyr Pro Ser Asp Asn Ile Asn Leu Thr Val Pro

CCGGCGGTGCACACGTCACCTTTTTCGTATATTCGGTCCACATCATGCAGTCTATGACACAAATTAATAATCC 770
Ala Gly Gly Ala His Val Thr Phe Ser Tyr Ile Pro Ser Thr His Ala Val Tyr Asp Thr Ile Asn Asn Pro

TAATGCGGATTACAAGTAGAAAGCGGGGTTAAACGGATCTCGTGACGGTTACTCTAGGGGAAGATCCA 840
Asn Ala Asp Leu Gln Val Glu Ser Gly Val Lys Thr Asp Leu Val Thr Val Thr Leu Gly Glu Asp Pro

FIG. 1B

GATGTGAGCCATACTCTGTCCATTCAAACAGATGGCTATCAGGCAAAAGCAGGTGATACCICGTAATGTGC 910
Asp Val Ser His Thr Leu Ser Ile Gln Thr Asp Gly Tyr Gln Ala Lys Gln Val Ile Pro Arg Asn Val

TTAATTACACAGTACTACTATTTCAGGAGATGATCTTGGGAATACCTATACACAGAAAGCAACAACCTT 980
309 Y
Leu Asn Ser Ser Gln Tyr Tyr Ser Gly Asp Asp Leu Gly Asn Thr Tyr Thr Gln Lys Ala Thr Thr Phe

TAAAGTCIGGGCACCAACTTCTACTCAAGTAAATGTTCTTCTTTATGACAGTGAACGGGTTCTGTAAACA 1050
VWAP
Lys Val Trp Ala Pro Thr Ser Thr Gln Val Asn Val Leu Leu Tyr Asp Ser Ala Thr Gly Ser Val Thr

AAAATCGTACCTATGACGGCATCGGGCCATGGTGTGTGGGAAGCAACGGTTAATCAAAACCTTGAAAAATT 1120
Lys Ile Val Pro Met Thr Ala Ser Gly His Gly Val Trp Glu Ala Thr Val Asn Gln Asn Leu Glu Asn

GGTATTACATGTATGAGGTAACAGGCCCAAGGCTCTACCCGAACGGCTGTGATCCTTATGCAACTGCGAT 1190
391 DPY
Trp Tyr Tyr Met Tyr Glu Val Thr Gly Gln Gly Ser Thr Arg Thr Ala Val Asp Pro Tyr Ala Thr Ala Ile

TGCACCAAATGGAACGAGAGGCATGATTGIGGACCTGGCTAAACACAGATCCTGCTGGCTGGAACAGTGAT 1260
Ala Pro Asn Gly Thr Arg Gly Met Ile Val Asp Leu Ala Lys Thr Asp Pro Ala Gly Trp Asn Ser Asp

FIG.-1C

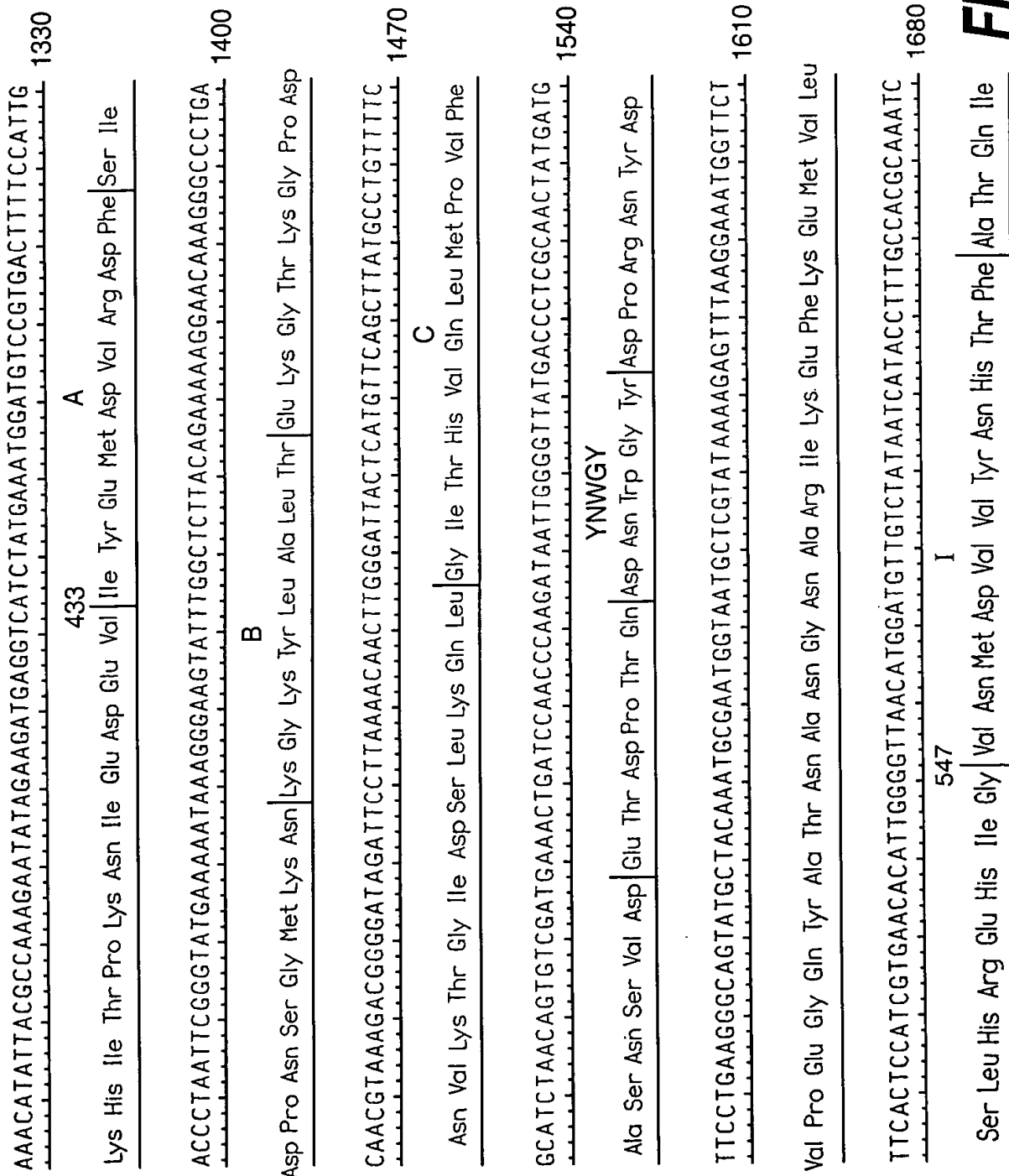


FIG. 1D

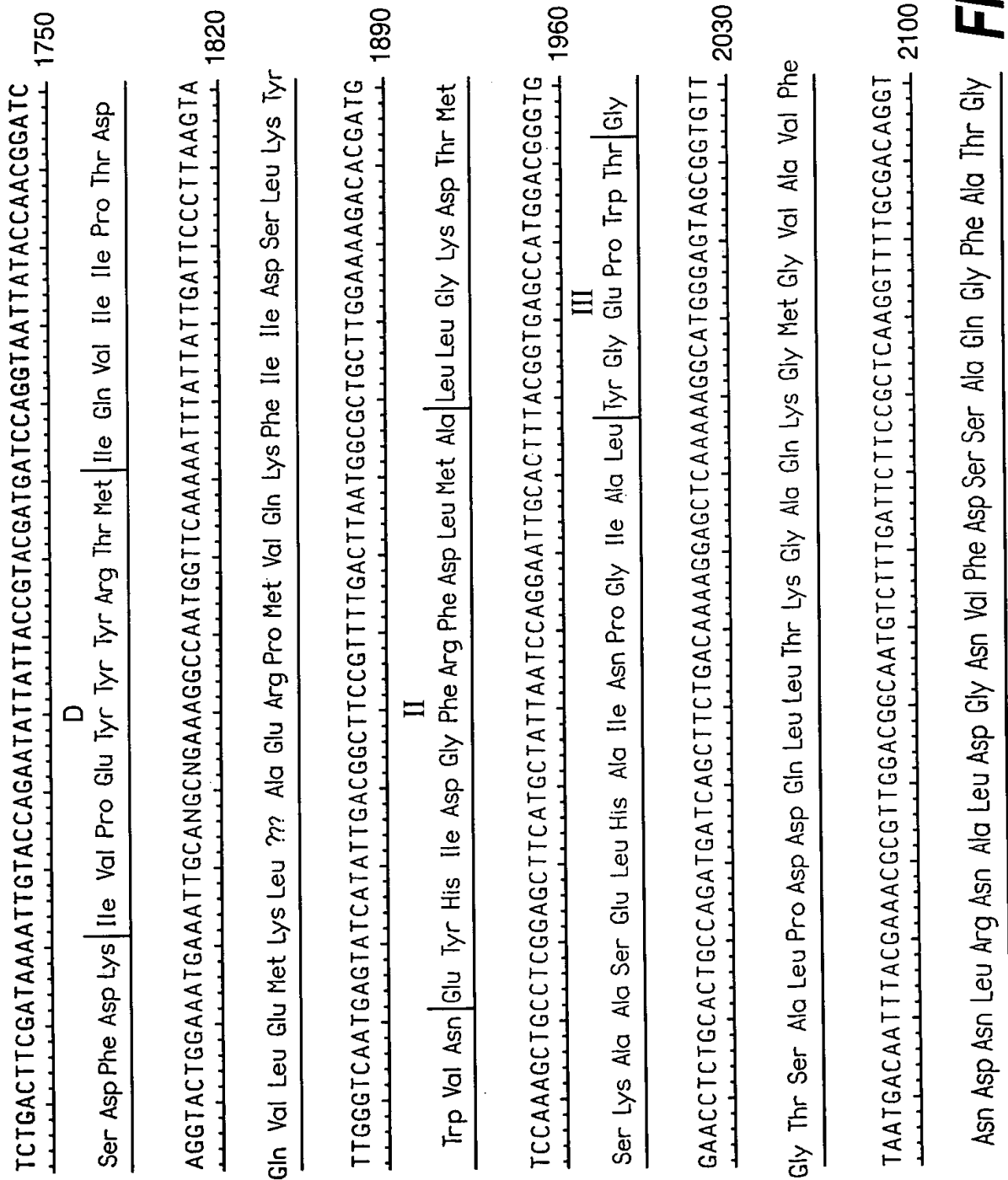


FIG. 1E

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GCAACAGGCTTAACTGATGCAATTAAGAAATGGCGTTGAGGGGAGTATTAAATGACITTTACCCTCTCACCAG 2170
Ala Thr Gly Leu Thr Asp Ala Ile Lys Asn Gly Val Glu Gly Ser Ile Asn Asp Phe Thr Ser Ser Pro

GTGAGACAAATTAACATATGTCACAAGTCATGATAACTACACCCCTTGGGACAAAAATAGCCCTAAGCAATCC 2240
IV
Gly Glu Thr Ile Asn Tyr Val Thr Ser His Asp Asn Tyr Thr Leu Trp Asp Lys Ile Ala Leu Ser Asn Pro

TAAATGATTCGGAAGCGGATCGGATTAAATGGATGAACTCGCACAAAGCAGTTGTTATGACCTCACAAGGC 2310
E
Asn Asp Ser Glu Ala Asp Arg Ile Lys Met Asp Glu Leu Ala Gln Ala Val Val Met Thr Ser Gln Gly

GTTCCATTCAAGCGGGGAAGAAATGCTTCGTANAAAGCGGCAACGACAATAGTTATAATGCAG 2380
Val Pro Phe Met Gln Gly Gly Glu Glu Met Leu Arg ?? Lys Gly Gly Asn Asp Asn Ser Tyr Asn Ala

GCGATGCGGTCAATGAGTTTGATTTGGAGCAGGAAAGCTCAATATCCAGATGTTTCAACTATTATAGCGG 2450
Gly Asp Ala Val Asn Glu Phe Asp Trp Ser Arg Lys Ala Gln Tyr Pro Asp Val Phe Asn Tyr Tyr Ser Gly

GCTAATCCACCTTCGCTTGATCACCCAGCCTTCGCGATGACGACAGCTAATGAAATCAATAGCCACCTC 2520
Leu Ile His Leu Arg Leu Asp His Pro Ala Phe Arg Met Thr Thr Ala Asn Glu Ile Asn Ser His Leu

FIG. 1F

CAATTCCTAAATAGTCCAGAGAACACAGTGGCCTATGAATTAAGTATCATGTTAATAAGACAAATGGG 2590

Gln Phe Leu Asn Ser Pro Glu Asn Thr Val Ala Tyr Glu Leu Thr Asp His Val Asn Lys Asp Lys Trp

GAAATATCATTTGTTGTATAACCCAAATAAACTGTAGCAACCATCAATTTGCCGAGCGGGAAATGGGC 2660

Gly Asn Ile Ile Val Val Tyr Asn Pro Asn Lys Thr Val Ala Thr Ile Asn Leu Pro Ser Gly Lys Trp Ala

AATCAATGCTACGAGCGGTAAAGGTAGGAGAAATCCACCCTTGGTCAAGCAGAGGGGAAGTGTCCAAGTACCA 2730

Ile Asn Ala Thr Ser Gly Lys Val Gly Glu Ser Thr Leu Gly Gln Ala Glu Gly Ser Val Gln Val Pro

GGTATAICTATGATGATCCTTCATCAAGAGGTAAGCCCGACACCACCGGTAAAAAGTAATAGAAAA 2794

Gly Ile Ser Met Met Ile Leu His Gln Glu Val Ser Pro Asp His Gly Lys Lys

FIG. 1G

[illegible]

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	X X L X X X X D F T - - - - - X X X X P V X X X X X S L X X X X X X X X X	Majority
	170 180 190 200	
158	L T L G E G X S G F T V H D D T A N K D I P V T S V K D A S L G Q D V T A V L A	pullseqsig.seq.PRO
145	- D L R V A F G D F T - - - - - D R T V S V - I A G N S A V Y D S R A D A F R	klebpnseqsig.seq.pro
34	F R L E T E I T D F - - - - - P L A V R E E Y S L - - - - -	subpull.seq.pro
	X X F X X X X X X X W X - - X X X T L L - - - X K X X X X L Y - - - - -	Majority
	210 220 230 240	
198	G T F Q H I F G G S D W A P D N H S T L L - - - - K K V T N N L Y Q F S G D L	pullseqsig.seq.PRO
177	A A F G V A L A E A H W V - - D K N T L L W P G G Q D K P I V R L Y - - - - -	klebpnseqsig.seq.pro
54	- -	subpull.seq.pro
	- E X X Y X X X X X X X X - X X X X X X X X X L T V X X X X X V T F X X	Majority
	250 260 270 280	
233	P E G N Y Q Y K V A L N D S W N N P S Y P S D N I N L T V P A G G A H V T F S Y	pullseqsig.seq.PRO
209	- - - - Y S H S S K V A A D - G E G K F T D R Y L K L T P T V S Q Q V S M R F	klebpnseqsig.seq.pro
54	- E A K Y K Y - - - - - - - - - - - - - - - V C V S D H P V T F G K	subpull.seq.pro
	I H X X X A X Y X X X X X P X - X X X V X S G X K T D L V X X X A X X E D X X X X	Majority
	290 300 310 320	
273	I P S T H A V Y D T I N N P N A D L Q V E S G V K T D L V T V T L G E D P D V S	pullseqsig.seq.PRO
244	P H - - L S S Y A A F K L P D - N A N V D E L L Q G E T V A I A A A E D G I L I	klebpnseqsig.seq.pro
72	I H C V R A - - - - - - - - - - S S G H K T D L Q I G A V - - - - -	subpull.seq.pro

FIG._2B

[illegible]

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Majority									
- - - I Y E X H X R D F S I - D X N S G M X N K G K Y L A L T E X D T X X X X X									
A 490 500 B 510 520									
462	- - -	I Y E M D V R D F	S I - D P N S G M K N	K G K Y L A L T	E K G T K G P D N	pullseqsig.seq.PRO			
430	K M T	I H E S H I R D L	S A W D Q T V P A E L R	G K Y L A L T	A G D S N M V Q H	klebpnseqsig.seq.pro			
217	- - -	I Y E T H L R D F	S I - H E N S G M I N K G K Y L A L T	E T D T Q T A N G	subpull.seq.pro				
Majority									
X K T G X X X L K X L G V T H V E L L P V F D X A X V D E - - - - -									
530 C 540 550 560									
498	V K T G I D S L K Q L	G I T H V Q L M P V F A S N S V D E	- - - - -	- - - - -	- - - - -	pullseqsig.seq.PRO			
470	L K T - - -	L S A S G V T H V E L L P V F D L A T V N E F S D K V A D I Q Q P	klebpnseqsig.seq.pro						
253	S S G L A Y V K E L	G V T H V E L L P V N D F A G V D E	- - - - -	- - - - -	- - - - -	subpull.seq.pro			
Majority									
- - - - -									
570 580 590 600									
527	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	T
506	F S R L C E V N S A V K S S E F A G Y C D S G S T V E E V L N Q L K Q S D S Q D	klebpnseqsig.seq.pro							
282	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	E
Majority									
X P - - - - - T D X Y N W G Y D P X H Y X V P E G S Y A T N P X G X									
610 620 630 640									
528	D P - - - - -	- - - - -	T Q D - N W G Y D P R N Y D V P E G Q Y A T N A N G -	pullseqsig.seq.PRO					
546	N P Q V Q A L N T L V A Q T D S	Y N W G Y D P F H Y T V P E G S Y A T D P E G T	klebpnseqsig.seq.pro						
283	K P - - - - -	- - - - -	L D A Y N W G Y N P L H F F A P E G S Y A S N P H D P	subpull.seq.pro					
Y N W G Y									

FIG..2D

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	X T R I K E F K X M I X X L H Q X - G X X V I M D V V Y N H T X A X X S D - - Majority																																							
	650										660										670										680									
555	N A R I K E F K E M V L S L H R E - H I G V N M D V V Y N H T F A T Q I S D - - pullseqsig.seq.PRO																																							
586	- T R I K E F R T M I Q A I K Q D L G M N V I M D V V Y N H T N A A G P T D R T klebpnseqsig.seq.pro																																							
312	Q T R K T E L K Q M I N T L H Q H - G L R V I L D V V F N H V Y K R E N S P - - subpull.seq.pro																																							
	- - F D K I V P X Y Y X R X X E X X X X X X X X X D X A X E R R M X X K F Majority																																							
	D 690										700										710										720									
592	- - F D K I V P E Y Y Y R T M I Q V I I P T D Q V L E M K L X A E R P M V Q K F pullseqsig.seq.PRO																																							
625	S V L D K I V P W Y Y Q R L N E T G S V E S A T C C S D S A P E H R M F A K L klebpnseqsig.seq.pro																																							
349	- - F E K T V P G Y F F R H D E C G M P S N G T G V G N D I A S E R R M A R K F subpull.seq.pro																																							
	I A D S L X Y W X X E Y X I D G F R F D L M G X L X K D T X L X A X E X X X A X Majority																																							
	730										740										750										760									
630	I I D S L K Y W V N E Y H I D G F R F D L M A L L G K D T M S K A A S E L H A I pullseqsig.seq.PRO																																							
665	I A D S L A V W T T D Y K I D G F R F D L M G Y H P K A Q I L S A W E R I K A L klebpnseqsig.seq.pro																																							
387	I A D C V V Y W L E E Y N V D G F R F D L L G I L D I D T V L Y M K E K A T K A subpull.seq.pro																																							
	N P G I X L F G E G W D X X T S X X X E X X X A X X X A X K G X G I G X F N D X Majority																																							
	770										780										790										800									
	III																																							
670	N P G I A L Y G E P W T G G T S A L P D D Q L L T K G A Q K G M G V A V F N D N pullseqsig.seq.PRO																																							
705	N P D I Y F F G E G W D S N Q S D R F E - - I A S Q I N L K G T G I G T F S D R klebpnseqsig.seq.pro																																							
427	K P G I L L F G E G W D L A T P L P H E Q K A A L A N A P R M P G I G F F N D M subpull.seq.pro																																							

FIG..2E

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	L R D A V X G N X - F D S X A - - - - Q G F A X G A G X L X X A X - - - -	Majority
	810 820 830 840	
710	L R N A L D G N V - F D S S A - - - - Q G F A T G A T G L T D A I - - - -	pullseqsig.seq.PRO
743	L R D S V R G G P F D S G D A L R Q N Q G I G S G A G V L P N E L A S L S D D	klebpnseqsig.seq. pro
467	F R D A V K G N T - F H L K A - - - - T G F A L G N G E S A Q A V - - - -	subpull.seq.pro
	- - - - - X X G X A G S - - - - - X X X K - - - - - A	Majority
	850 860 870 880	
738	- - - - - K N G V E G S - - - - - - - - - - - - - - - - - -	pullseqsig.seq.PRO
783	Q V R H L A D L T R L G M A G N L A D F V M I D K D G A A K K G S E I D Y N G A	klebpnseqsig.seq. pro
495	- - - - - M H G I A G S - - - - - - - - - - S G W K - - - - - A	subpull.seq.pro
	X X X X X X P X E X I N Y V X S H D N X T L W D K I S X X X P Q E X D - A X R	Majority
	890 900 910 920	
745	I N D F T S S P G E T I N Y V T S H D N Y T L W D K I A L S N P N D S E - A D R	pullseqsig.seq.PRO
823	P G G Y A A D P T E V V N Y V S K H D N Q T L W D M I S Y K A S Q E A D L A T R	klebpnseqsig.seq. pro
507	L A P I V P E P S Q S I N Y V E S H D N H T F W D K M S F A L P Q E N D - S R K	subpull.seq.pro
	X X M Q X L A X A X V M L X Q G V P F X Q X G X E X L R X K X G X X N S Y X S G	Majority
	930 940 950 960	
784	I K M D E L A Q A V V M T S Q G V P F M Q G G E E M L R X K G G N D N S Y N A G	pullseqsig.seq.PRO
863	V R M Q A V S L A T V M L G Q G I A F D Q Q G S E L L R S K S F T R D S Y D S G	klebpnseqsig.seq. pro
546	R S R Q R L A V A I I L L A Q G V P F I H S G Q E F F R T K Q G V E N S Y Q S S	subpull.seq.pro

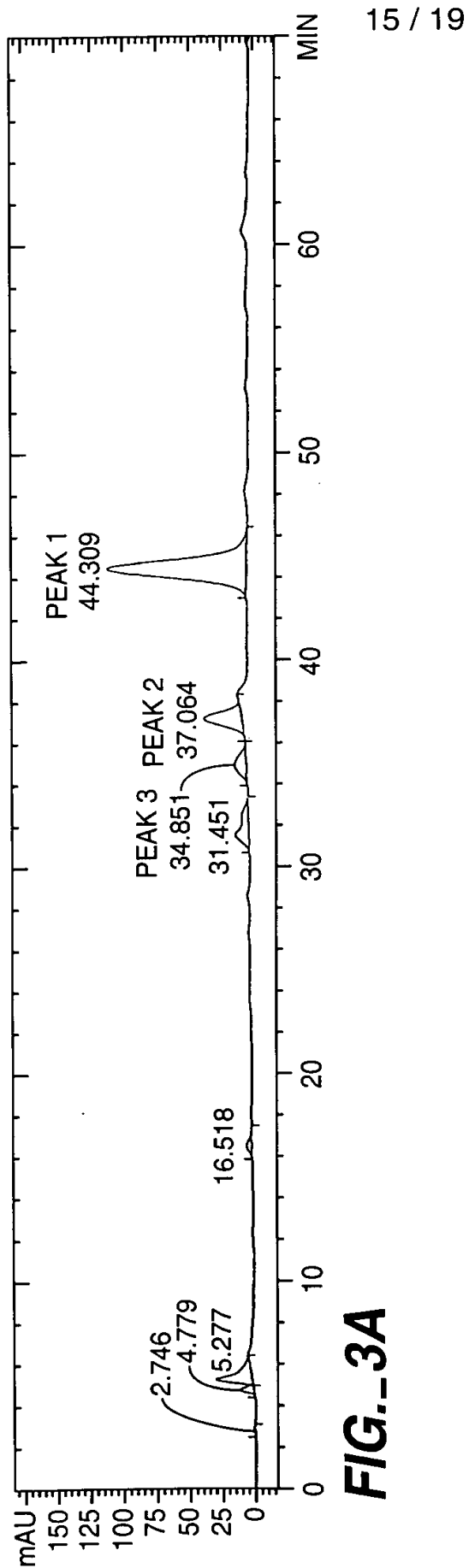
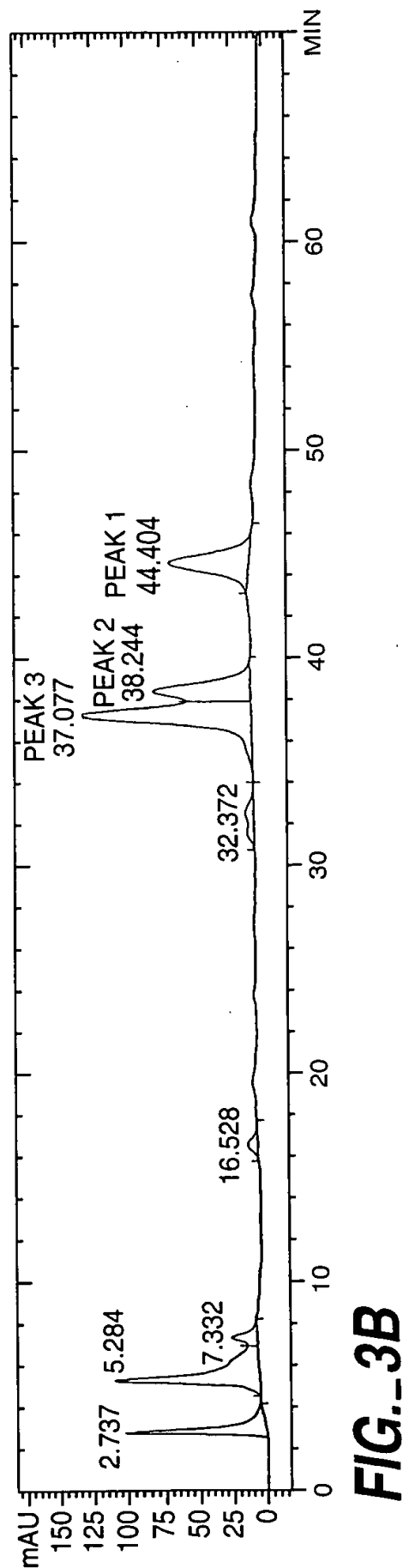
FIG._2F

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	D X X N X X D W S R X X X	970	980	990	1000	Majority
824	D A V N E F D W S R K A Q	- - - - -	- - - - -	- - - - -	- - - - -	pullseqsig.seq.PRO
903	D W F N R V D Y S L Q D N N Y N V G M P R I S D D G S N Y E V I T R V K E M V A	- - - - -	- - - - -	- - - - -	- - - - -	klebpnseqsig.seq. pro
586	D S I N Q L D W D R R E T	- - - - -	- - - - -	- - - - -	- - - - -	subpull.seq.pro
	- - - - - X K X X X X Y Y X X L I X L R K X H P A F R L X X A X X I X X H L X	1010	1020	1030	1040	Majority
837	- - - - - Y P D V F N Y Y S G L I H L R L D H P A F R M T T A N E I N S H L Q	- - - - -	- - - - -	- - - - -	- - - - -	pullseqsig.seq.PRO
943	T P G E A E L K Q M T A F Y Q E L T E L R K S S P L F T L G D G S A V M K R V D	- - - - -	- - - - -	- - - - -	- - - - -	klebpnseqsig.seq. pro
599	- - - - - F K E D V H Y I R R L I S L R K A H P A F R L R S A A D I Q R H L E	- - - - -	- - - - -	- - - - -	- - - - -	subpull.seq.pro
	F L N X X E X - - - - - T V A Y X L X D X X X D X W - X X I I V X X N A	1050	1060	1070	1080	Majority
871	F L N S P E N - - - - - T V A Y E L T D H V N K D K W - G N I I V V Y N P	- - - - -	- - - - -	- - - - -	- - - - -	pullseqsig.seq.PRO
983	F R N T G S D Q Q A G L L V M T V D D G M K A G A S L D S R L D G L V V A I N A	- - - - -	- - - - -	- - - - -	- - - - -	klebpnseqsig.seq. pro
633	C L T L K E H - - - - - L I A Y R L Y D L D E V D E W - K D I I V I H H A	- - - - -	- - - - -	- - - - -	- - - - -	subpull.seq.pro
	X P X S X T X N L P X G X X X X L X A X S G X X G E X T L X X - - - - - A X G	1090	1100	1110	1120	Majority
902	N K T V A T I N L P S G K - - W A I N A T S G K V G E S T L G Q - - - - - A E G	- - - - -	- - - - -	- - - - -	- - - - -	pullseqsig.seq.PRO
1023	A P E S R T L N E F A G E T L - Q L S A I Q Q T A G E N S L A N G V Q I A A D G	- - - - -	- - - - -	- - - - -	- - - - -	klebpnseqsig.seq. pro
664	S P D S V E W R L P N D I P Y R L L C D P S G F Q E D P T - - E - - - - I K K	- - - - -	- - - - -	- - - - -	- - - - -	subpull.seq.pro
	T V X V P G - - I X X X I L X Q X X A X D X G - X K S X X - -	1130	1140	1150	Majority	
935	S V Q V P G - - I S M M I L H Q E V S P D H G - K K - - . K	- - - - -	- - - - -	- - - - -	- - - - -	pullseqsig.seq.PRO
1062	T V T L P A W S V A V L E L P Q G E A Q G A G L P V S S K	- - - - -	- - - - -	- - - - -	- - - - -	klebpnseqsig.seq. pro
697	T V A V N G - - I G T V I L Y - - L A S D L - - - K S F A	- - - - -	- - - - -	- - - - -	- - - - -	subpull.seq.pro

FIG._2G

FIG._2G

**FIG. 3A****FIG. 3B**

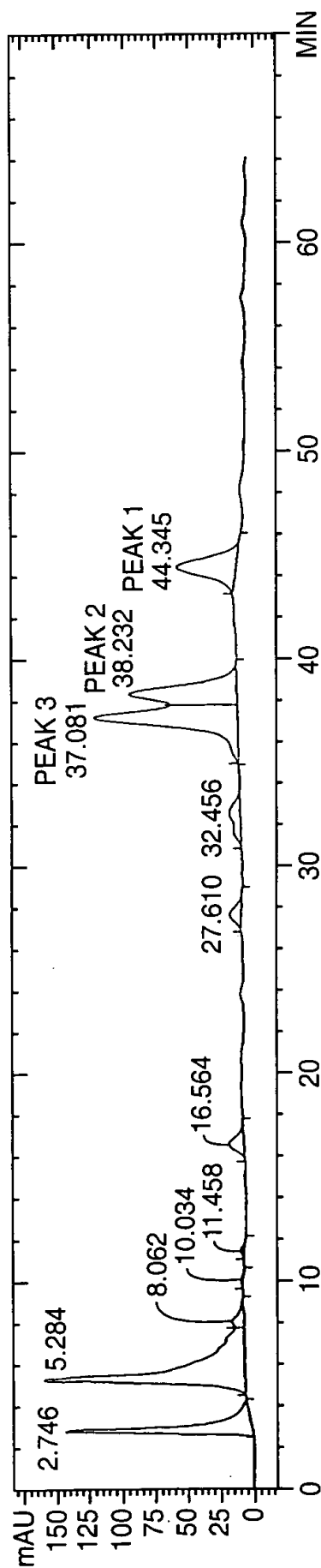


FIG._3C

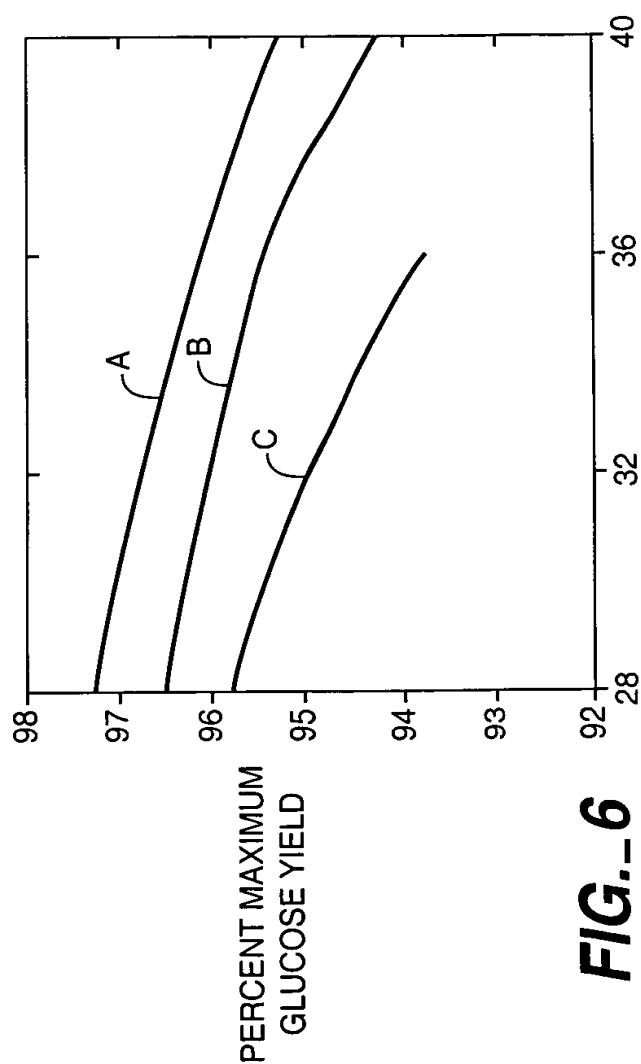
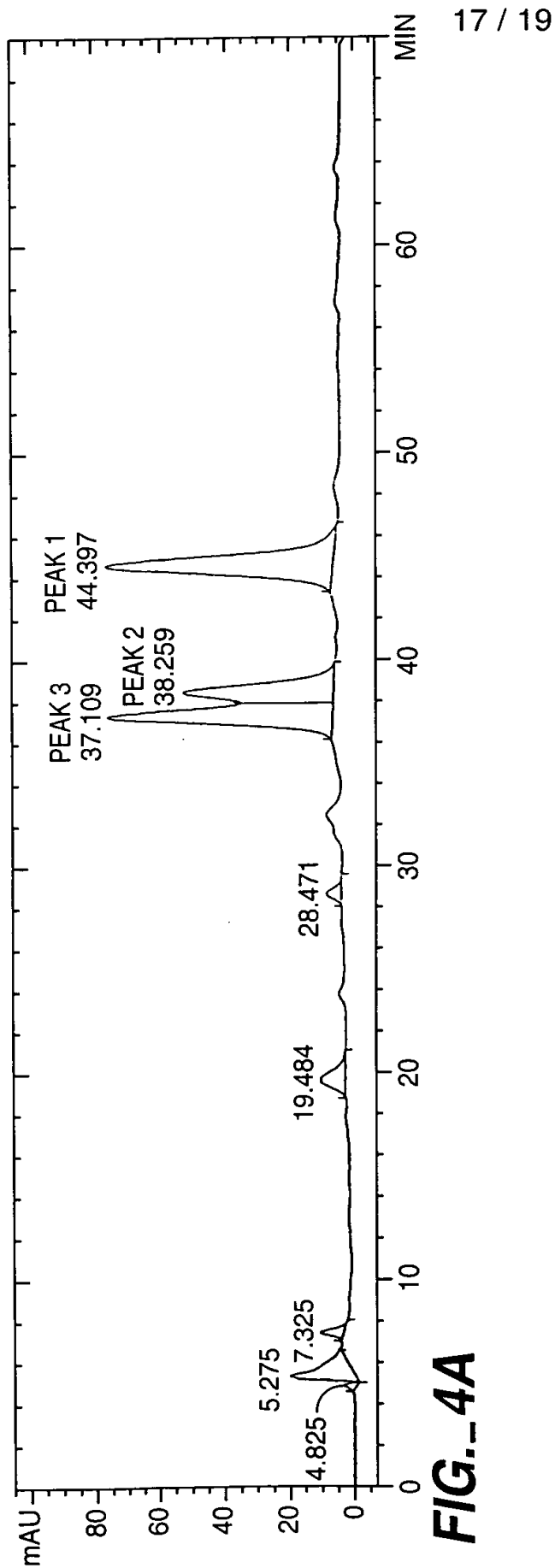
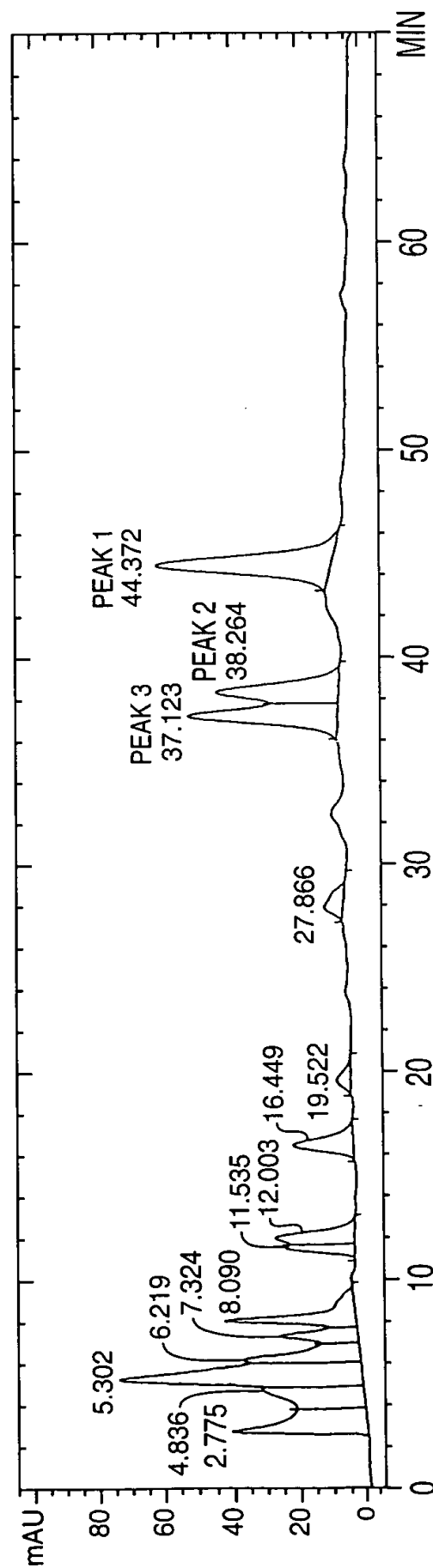


FIG._6

**FIG. 4A****FIG. 4B**

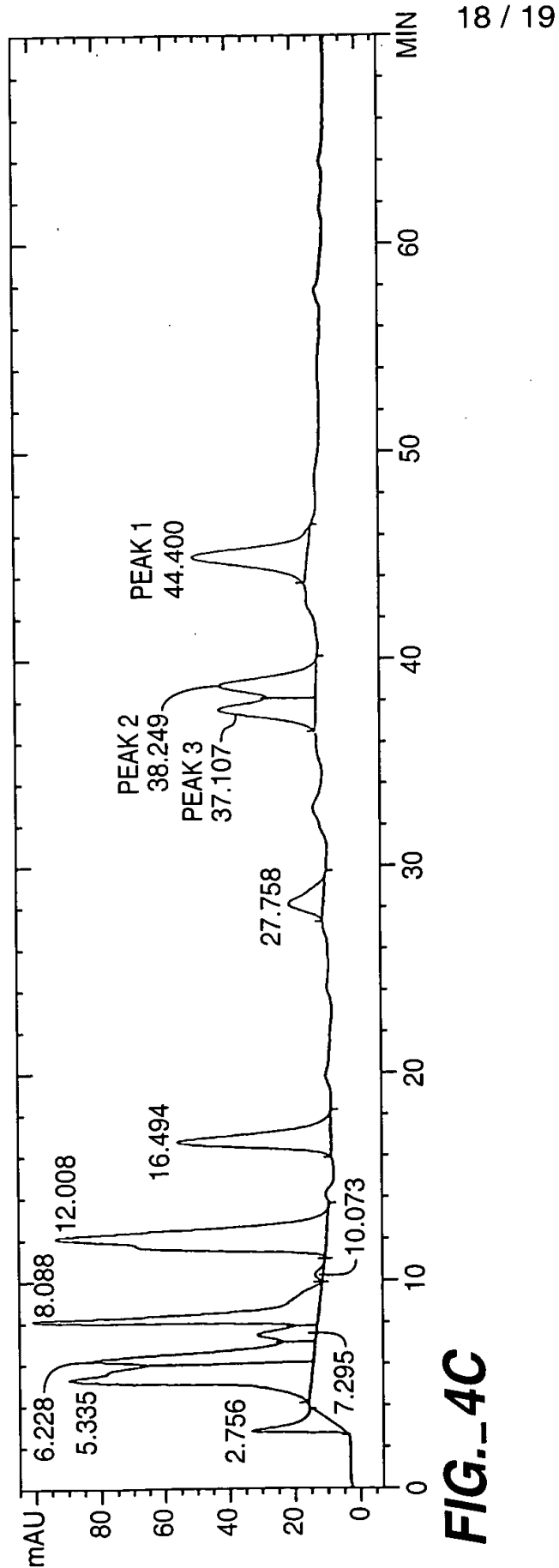


FIG. 4C

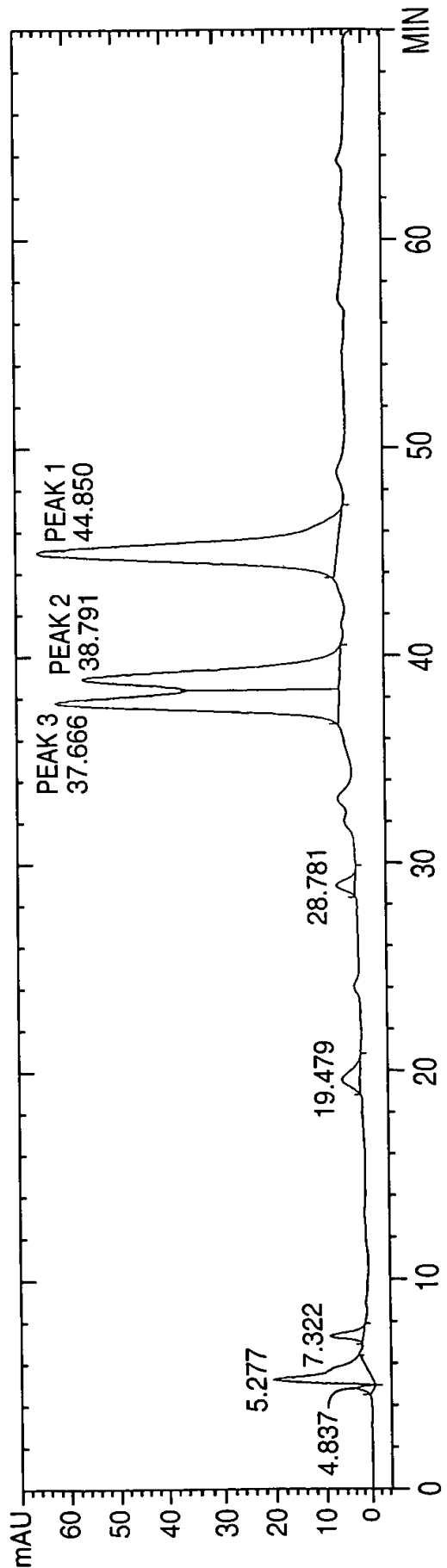


FIG. 4D

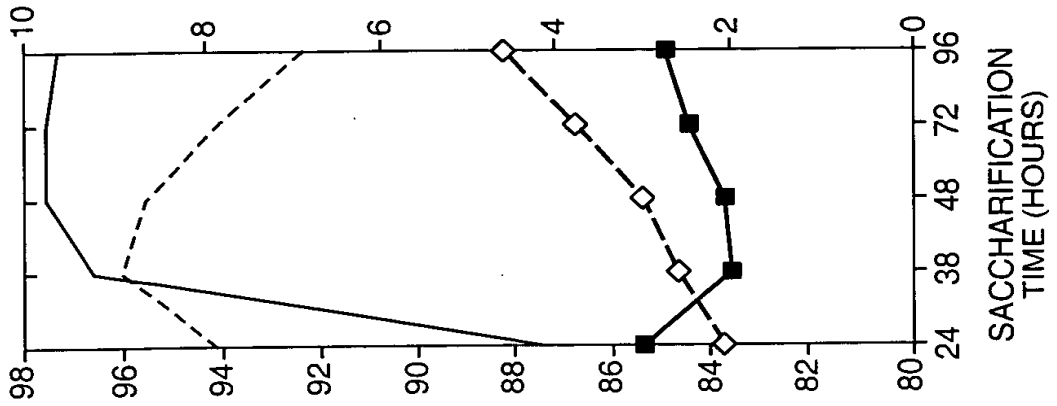


FIG. 5C

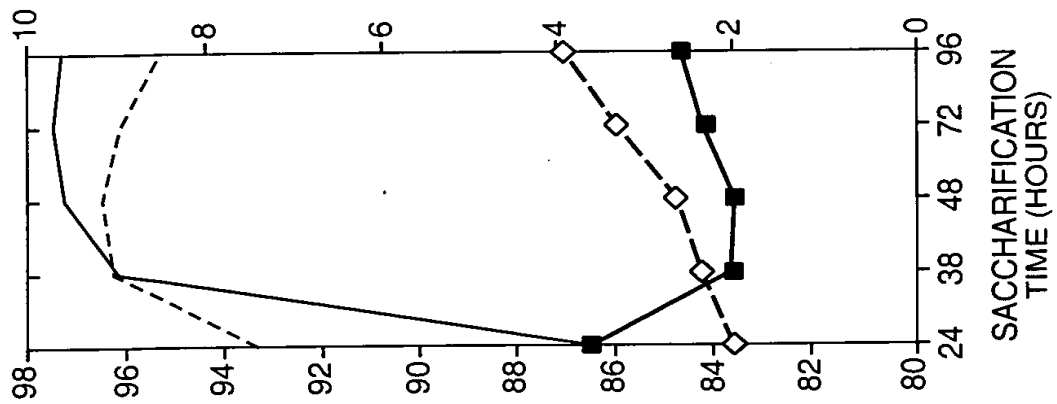


FIG. 5B

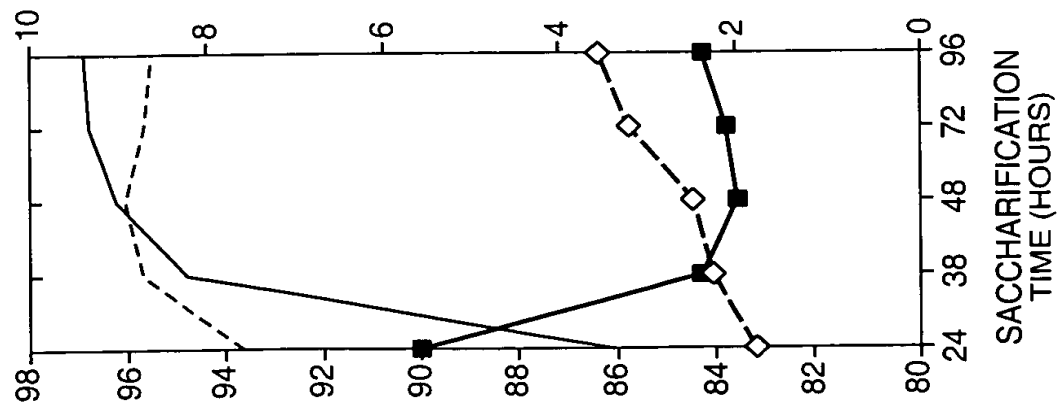


FIG. 5A